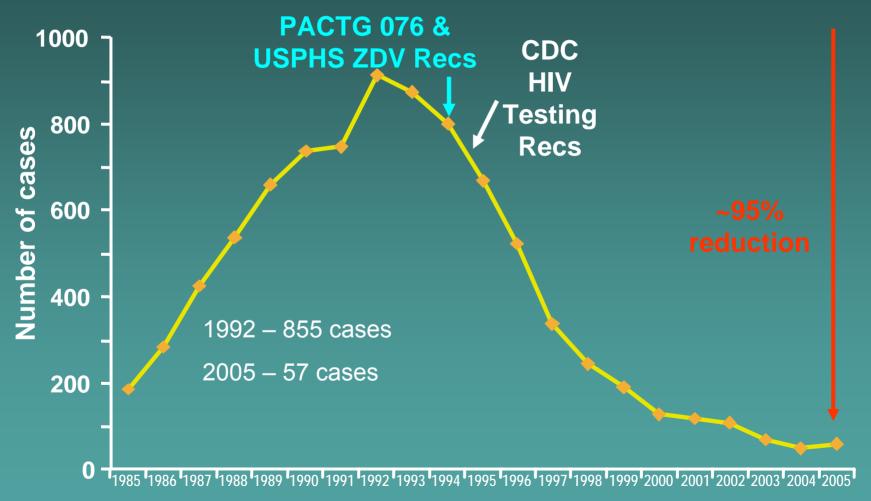
## Mother-to Child HIV transmission: A Thing of the Past?

Perinatal Hepatitis B and HIV Grantees' Meeting Atlanta, 4/30/2007

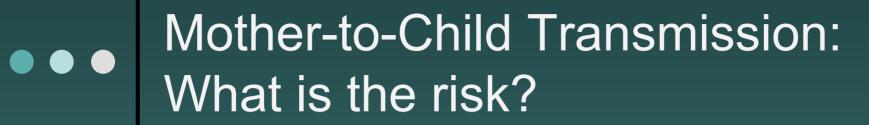
Jess Fogler, MD
Assistant Director, Perinatal Hotline
National HIV/AIDS Clinicians' Consultation Center



### Estimated Number of Perinatally Acquired AIDS Cases, by Year of Diagnosis, 1985-2005 – United States



Year of diagnosis



Transfusion	95%
Untreated Perinatal; breast feeding	30-40%
Untreated Perinatal; formula feeding	15-25%
Receptive Anal Sex	5%
Optimal Perinatal	<1%
Needle stick	0.3%



# Mother-to-Child Transmission:United States

#### Public Health Success Story

- ~6,000-7,000 HIV-infected women give birth/yr (estimate from year 2000)
- Before 1994: ~25% transmission
- Today: <2% transmission in U.S.
- Estimated number of HIV+ infants born/yr:
  - 1,650 in 1991
  - 96-186 in 2004





## Mother-to-Child Transmission: United States

Factors leading to reduced transmission include:

- Enhanced prenatal HIV counseling and testing
- Use of antiretroviral medications (ARVs) for mother and infant
- C-section when indicated
- Avoidance of breastfeeding



CDC Home Search Health Topics A-Z



Recommendations and Reports September 22, 2006 / 55(RR14);1-17

#### Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in **Health-Care Settings**

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The material in this report originated in the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (proposed), Kevin A. Fenton, MD, PhD, Director; and the Division of HIV/AIDS Prevention, Timothy D. Mastro, MD, (Acting) Director.

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#### Summary

These recommendations for human immunodeficiency virus (HIV) testing are intended for all healthcare providers in the public and private sectors, including those working in hospital emergency departments, urgent care clinics, inpatient services, substance abuse treatment clinics, public health clinics, community clinics, correctional health-care facilities, and primary care settings. The recommendations address HIV testing in health-care settings only. They do not modify existing guidelines concerning HIV counseling, testing, and referral for persons at high risk for HIV who seek or receive HIV testing in nonclinical settings (e.g., community-based organizations, outreach settings, or mobile vans). The objectives of these recommendations are to increase HIV screening of patients, including pregnant women, in health-care settings; foster earlier detection of HIV infection; identify

### HIV Screening in Pregnancy

#### CDC testing guidelines 2006

- "Opt-out" HIV screening with routine prenatal labs
- Separate written consent not required
- Repeat screening in third trimester for high-risk women or in areas with high rate of HIV infection among pregnant women
- Rapid HIV test in labor if no documented prenatal test

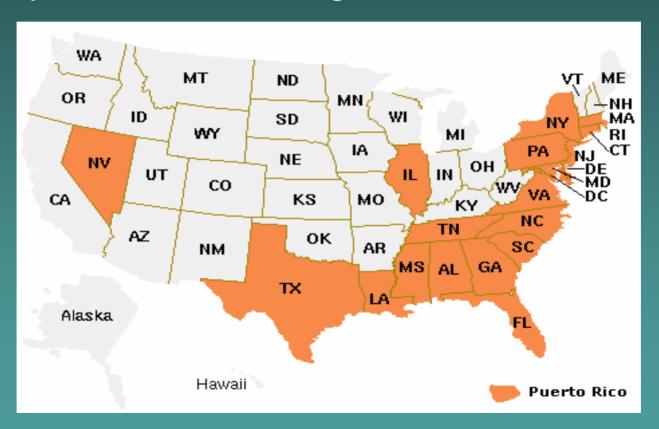
http://www.cdc.gov/MMWR/preview/mmwrhtml/rr5514a1.htm





### States with Elevated Incidence of HIV among Women of Child Bearing Age

Repeat 3<sup>rd</sup> trimester screening recommended in these areas







# Sample Call from the Perinatal Hotline

Question: Which ARVs in this pregnant woman?

Patient is 15 weeks pregnant and was diagnosed with HIV a few weeks ago. (confirmed)

She has a cd4 count of 550 and her viral load is undetectable without medications.

Since her viral load is already undetectable, does she need to be on ARVs for prevention of mother-to-child transmission?

Public Health Service Task Force

#### Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-1-Infected Women for Maternal Health and Interventions to Reduce Perinatal HIV-1 Transmission in the United States

October 12, 2006

Revisions to the July 6, 2006 Public Health Service Task Force Recommendations for Use of Antiretroviral Drugs in Pregnant Women Infected with HIV-1 for Maternal Health and for Reducing Perinatal HIV-1 Transmission in the United States

have been made by the Perinatal HIV Guidelines Working Group

It is emphasized that concepts relevant to HIV management evolve rapidly. The Task Force has a mechanism to update recommendations on a regular basis, and the most recent information is available on the AIDSinfo Web site. (http://AIDSinfo.nih.gov).



# How Do Antiretrovirals Lower Perinatal Transmission?

#### Effect on viral load

in mother

#### Pre-exposure prophylaxis (PREP)

of infant (transplacental AZT passage)

#### Post-exposure prophylaxis (PEP)

of infant (AZT administration for 6 weeks)



## Antiretrovirals Should be Given to ALL Pregnant Women

AZT lowers transmission even in HIV-infected women with very low viral load

Meta-analysis of 7 prospective cohorts/trials

44 cases transmission among 1,202 HIV+ women with delivery HIV RNA viral load <1,000

Transmission differed by receipt of AZT:

- Mothers receiving AZT: 8/834, 1.0%
- Mothers not receiving AZT: 36/368, 9.8%





# USPHS Guidelines for Prevention of Mother-to-Child Transmission

#### Maternal plasma HIV RNA <1,000:

- Combination ARVs or AZT alone
- Vaginal delivery ok if <1000 near delivery</li>
- ARVs intrapartum and to infant

#### Maternal plasma HIV RNA >1,000:

- Combination ARVs during pregnancy
- *Elective C/S* if >1,000 near delivery
- ARVs intrapartum and to infant



# Sample Call from the Perinatal Hotline

Perinatal Call ID#10290

**Question: Need help now!** 

31 year old G2P1 at 32+3 weeks gestational age with no prior prenatal care and reported crack use presented to L&D today with confirmed PPROM for at least 2 days. Contracting painfully every 2-3 minutes.

A rapid HIV test was sent on admission which has come back positive.

What are your recommendations?

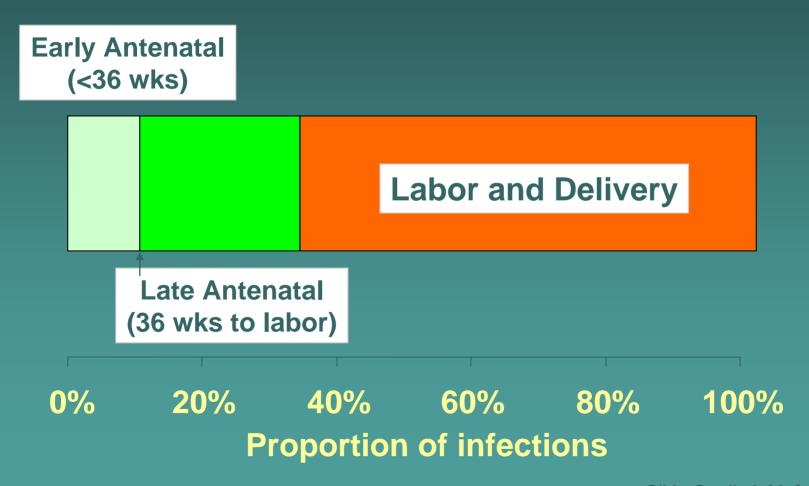


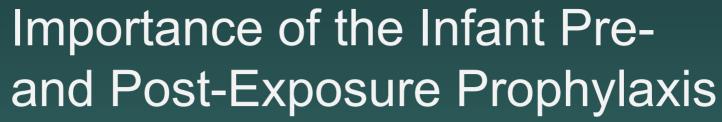
### For women without treatment prior to labor:

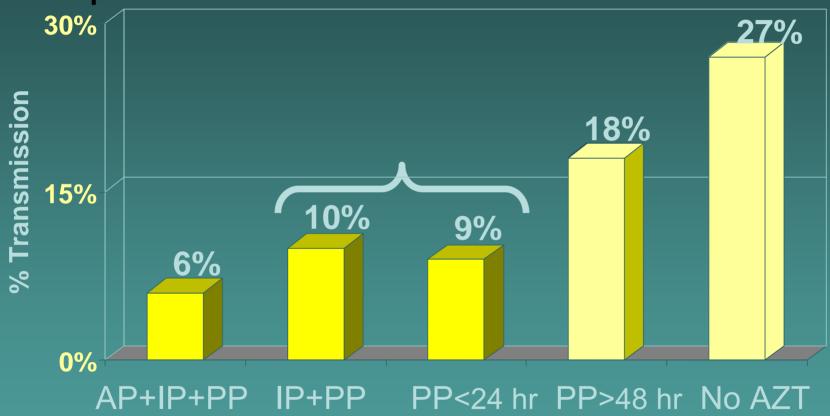
It's not too late to intervene!



# Timing of Mother-to-Child HIV Transmission (formula)







**Even When No Maternal AZT Received, Infant AZT Started Within 24 Hours Reduces Transmission** 

### Rapid Testing in Labor

CDC recommends routine rapid HIV testing for women in labor without documented HIV test

- EIA screening test
- Results in < 1hr</li>
- 99-100% sensitive and specific
- Needs confirmatory Western blot



### Rapid Testing in Labor

#### **Positive Tests**

- Positive predictive value ~50% (depending on local prevalence)
- Act on all positive rapid tests as true positives (until confirmatory test)
- Initiate meds in mom ASAP
- Consider using expanded regimen for mom and infant
- Consult local perinatal HIV experts or call the Perinatal Hotline (888) 448-8765



### Rapid Testing Resources

CDC: Rapid HIV-1 Antibody Testing during Labor and Delivery for Women of Unknown HIV Status:

A Practical Guide and Model Protocol

 http://www.cdc.gov/hiv/topics/testing/resources/guid elines/rt-labor&delivery.htm

#### **Local Rapid Testing Trainings:**

 http://www.cdc.gov/hiv/topics/testing/resources/facts heets/training.htm



### • • Challenges Remain

- Continued HIV transmission to women
  - Especially adolescents
- Lack of prenatal care
  - Especially in illicit drug users
  - 15% of HIV-infected women lack prenatal care
- Failure to identify HIV infection during pregnancy
- Antiretroviral drug resistance



#### National HIV/AIDS Clinicians' Consultation Center UCSF – San Francisco General Hospital

#### Perinatal Hotline (888) 448 - 8765

National Perinatal HIV Consultation & Referral Service

Advice on testing and care of HIV-infected pregnant

women and their infants

#### Warmline

(800) 933 - 3413

National HIV Telephone Consultation Service

Consultation on all aspects of HIV testing and clinical care

#### **PEPline**

(888) 448 - 4911

National Clinicians' Post-Exposure Prophylaxis Hotline
Recommendations on managing occupational exposures to HIV and hepatitis B & C

HRSA AIDS ETC Program & Community Based Programs, HIV/AIDS Bureau & Centers for Disease Control and Prevention (CDC)